A. DEFENSE TECHNOLOGY TRANSFER MANAGEMENT AND OVERSIGHT

The Defense Department operates a decentralized technology transfer program. The Military Departments are recognized as separate agencies for program implementation. There are over 100 Offices of Research and Technology Applications (ORTAs) and other technology transfer focal points. Additionally, we have about half that many legal staffs throughout DoD supporting technology transfer functions.

Communication is necessary within and between Defense Department technology transfer activities as well as with potential and existing partners in the private sector. The Defense Technology Transfer Working Group (DTTWG) is a key element in communication within the DoD. Other tools being used are the Federal Laboratory Consortium for Technology Transfer (FLC), DoD Workshops such as the Technology Transfer Integrated Planning Team, websites such as TechTRANSIT, policy such as a draft DoD Directive and Instruction on Technology Transfer, and other meetings and activities. Two special studies were conducted this year, one to assess foreign participation in CRADAs and one to assess the value of Cooperative R&D Agreements to DoD.

Defense Technology Transfer Working Group (DTTWG)

The DTTWG was established in 1994 and is composed of representatives from each of the Military Departments and most of the Defense Agencies. This group meets monthly to review technology transfer issues requiring either consistent policy or approach from a joint Department of Defense perspective. Issues for FY 98 included:

- international participation in CRADAs;
- topics for the DoD TTIPT workshop;
- unplanned funding for DoD technology transfer activities (MSU TechLink and Commercialization of Technology to Lower Defense Costs);
- legislative proposals (HR 2544 and S2120); and
- FLC participation from DoD

DoD Technology Transfer Policy

The DTTWG and Military Department intellectual property attorneys developed a draft DoD Directive on domestic technology transfer in FY 97. This Directive is being coordinated within the Department. This Directive will institutionalize policy on domestic technology transfer and stress the importance of technology transfer as a key activity within DoD. When the Directive is signed, an Instruction will be issued identifying specific procedures for technology transfer implementation and a Handbook identifying best practices and various ways of doing technology transfer will be issued.

Federal Laboratory Consortium for Technology Transfer

The Military Departments and Defense Agencies have been participating in the Federal Laboratory Consortium for Technology Transfer (FLC) through financial support (see Table 1) and participation in meetings by their technology transfer focal points. The FLC provides an opportunity to share information with other federal agency technology transfer professionals and learn about methods employed in other agencies that could help DoD. The FLC also provides a forum for joint work efforts and consolidation of activities. The FY 98 FLC National Meeting, held

in the spring, provided an opportunity for DoD to hold its fourth joint session bringing the Military Departments and Defense Agency representatives together for an information sharing session. These sessions have proven to be beneficial and, therefore, future FLC meetings will continue to include joint DoD sessions.

FY 98 DoD Support to FLC

Navy	$246,080.00
Army	$160,608.00
Air Force	$102,512.00
DoD HQ	$47,440.00
BMDO	$45,872.00
DARPA	$32,576.00
DoD Test & Evaluation	$19,728.00
Defense Special Weapons Agency	$5,104.00
US Special Operational	$3,232.00
Operational Test & Evaluation	$1,880.00
Defense Information Systems	$1,872.00
Defense Logistics Agency	$1,088.00
NIMA	$832.00
Joint Chiefs	$54.00
Total	**$668,878.00**

Source: Federal Laboratory Consortium for Technology Transfer

FLC Award Winners

The FLC Annual Awards for Excellence in Technology Transfer recognize laboratory employees who have done outstanding work in the process of transferring lab-developed technology. Nominations are made by laboratory representatives and are judged by a panel of experts in the field of technology transfer. The 1998 Department of Defense winners are:

- **John P. Mistretta** of **Air Force** Wright Laboratory, for the incorporation of advanced composite materials to cost-effectively rehabilitate bridges;
- **Vincent F. Hock**, **Susan A. Drozdz**, **Curt Gustafson**, and **Bob Bruton** of **Army** Construction Engineering Research Laboratory (CERL), for the development and transfer of in-situ chemical stabilization of lead-based waste from abrasive blasting;
- **Richard G. Lampo**, **Thomas J. Nosker**, **Alan E. Robbins**, and **Malcolm G. McLaren, Jr.**, of **Army** Construction Engineering Research Laboratory (CERL), for the development and transfer of plastic lumber materials for construction;
- **Jeffery P. Holland**, **David R. Richards**, **Cary A. Talbot**, and **Earl V. Edris** of **Army** Engineer Waterways Experiment Station, for the development and transfer of the Department of Defense's groundwater modeling system;
- **Jeffrey A. Melby** and **George F. Turk** of **Army** Engineer Waterways Experiment Station, for the development of a new and improved concrete armor unit for breakwaters;
- **Robert L. Trottier** and **Peter G. Lavigne** of **Army** Natick Research, Development, and Engineering Center, for the transfer of military self-heating technology for retail use;
- **Jeff Horey**, **Bob McCormack**, **Ron Wolff**, and **Edward Purvis** of **Naval** Air Warfare Center's Training Systems Division, for development and transfer

of the Weapons Team Engagement Trainer that simulates hostage rescue, room clearing, and terrorist encounters;

- **Michael D. Seltzer** and **Gerhard A. Meyer** of **Naval** Air Warfare Center's Weapons Division, China Lake, for development and transfer of the Thermo Jarrell Ash TraceAIR, a monitoring system for toxic airborne metals;
- **Peter McGraw**, **Charles Kelly**, **Carlton Jones, Jr.**, **Dwight Lavinder**, **Thomas Walters**, **DietrichWiegman**, **Craig Alig**, and **Reid McAllister** of **Naval** Surface Warfare Center's Carderock Division, for development of the Plastics Waste Processor;
- **Norman L. Owsley** and **Andrew J. Hull** of **Naval** Undersea Warfare Center, for the development of the noninvasive identification of acoustic signals generated during the human cardiac cycle.

In addition, the 1998 FLC Representative of the Year Award was presented to **Margaret M. (Peg) McNamara**, **Naval** Underwater Warfare Center, for her work in the area of Technology Transfer and support to the FLC.

DoD Representatives to the FLC

DoD representatives serve in both elected and nonelected positions with the FLC. These leadership functions facilitate sharing of information with other federal departments and agencies and contribute to specific technology transfer activities. The following DoD personnel hold positions in the FLC.

FLC Position	Name/Organization
FLC Vice Chair and Chair, Planning and Policy Committee	Douglas Blair/Air Force Research Lab
Chair, Financial Management Committee	Karen Gordon/Army Night Vision Lab
Chair, Awards Committee	Sue Ibrahim/Army Yuma Proving Ground
Co-chair, Legal Issues Committee	David Spevack/Navy Medical Research Center
Co-chair, Legal Issues Committee	Charles Harris/Army Medical Research & Materiel Command
Chair, Education Committee	Linda Jenkins/Naval Research Laboratory, Stennis Space Center
Co-chair, Program Committee SouthEast Regional Coordinator	Ed Linsenmeyer/Naval Surface Warfare Center, Coastal Systems Station
Co-chair, Program Committee	Norma Cammarrata/Army Research Lab
Chair, Training Committee Co-chair, Mid-Atlantic Region	John Griffin/Army Topographic Engineering Center
Chair, Information Systems Committee Co-chair, Mid-Atlantic Region	Mike Rausa/Army Research Lab (Aberdeen)
Co-chair, Mid-Atlantic Region	Richard Dimmick/Army Research Lab (Aberdeen)
Chair, Far West Region	Michael Sullivan/Naval Air Warfare Center, Weapons Division Point Mugu
Member-At-Large	Katherine Drew/Office of Naval Research

DoD Technology Transfer Integrated Product Team (TTIPT) Workshop

The third DoD TTIPT Workshop was hosted by the Navy in Sandestin, Florida, in the fall of 1998. These workshops are important in improving the DoD technology transfer program because they allow sharing of best practices/lessons learned, provide opportunities for training, and enhance communication among the ORTAs and focal points. Over 90 technology transfer professionals attended this workshop.

The workshop provided an opportunity for seven tutorials, two training sessions, and Committee meetings on various issues of interest to technology transfer professionals. The tutorials included: laboratory management issues (i.e., FY 98 Defense Authorization Act requirements in Section 912), public-private partnerships and use of 10 USC 2667, marketing DoD developed technologies to the private sector (how do we let small businesses know technologies are available for their use?), National Interagency R&D Program for combating terrorism through rapid R&D and prototyping, Commercialization of Technologies to Lower Defense Costs Initiative (how it will work and how to participate in it) patent portfolio analysis and licensing using the National Technology Transfer Center's TOP Index, use and value of HBCU/MI program in technology transfer. The two training sessions were on Other Transaction Authority and Naval Research Laboratory patent licensing processes.

Websites

During FY 98 the Deputy Director, Defense Research and Engineering, Technology Transfer Office, upgraded its TechTRANSIT website (http://www.dtic.mil/techtransit/) with a new look that offers easier access to partnering opportunities within DoD. TechTRANSIT is the "gateway" for private industry and academia doing business with DoD laboratories. There are six sections of this website: Business Opportunities, News-Comments-Subscribe, Accomplishments, Meeting Room, Reference Room, and About TTO. Information about the Technology Transfer Office Charter, its programs, mission and goals can be found in "About TTO." In addition to an overview of technology transfer in DoD, it provides links to labs where technology transfer and business opportunities are available. The "Reference Room" provides information on DoD technology transfer policies, laws, and publications. "Business Opportunities" offers links to technology partnership opportunities such as licensing, cooperative R & D, facility sharing, technologies available for commercialization and other resources such as venture capital. The "Meeting Room" hosts a calendar where upcoming meetings of interest may be posted. "Accomplishments" showcases various highlights and achievements of the Technology Transfer Office and defense labs in the area of technology transfer. Monthly updates will feature success stories, awards and upcoming technology transfer meetings of interest.

Defense Technology Transfer Information System (DTTIS)

The DTTIS is maintained by the Defense Technical Information Center (DTIC) in cooperation with the Military Services and Defense Agencies. As of December 31, 1998, the DTTIS contained project information on 2,788 Technology Transfer Activities, including 1,363 active Cooperative Research and Development Agreements (CRADAs) and 143 active Patent License Agreements. Over 100 Technology Transfer professionals are registered to use the DTTIS password protected World Wide Web site to view and analyze technology transfer data. In 1998 input into the DTTIS included 551 new records and 1,597 record modifications. We believe DTTIS will help DoD ORTAs identify potential partnering opportunities with other DoD activities as well as identify joint development with the private sector which could be used to support other efforts within DoD.

Commercialization of Technologies to Lower Defense Costs Initiative

The Congress provided $5M in the Army's Environmental Quality Technology budget line for a program called Commercialization of Technologies to Lower Defense Costs

Initiative. The objective of this program is to lower U.S. defense procurement costs by promoting the commercialization of federal laboratory technologies. The Industrial Ecology Center at Picatinny Arsenal is managing this Initiative. The laboratory technology transfer professionals were briefed on this program at the 1998 TTIPT Workshop because one of the goals of this program is to commercialize the technologies developed at DoD laboratories which can assist in resolving environmental quality concerns. DOD technology transfer professionals can suggest technologies for further review/funding under this Initiative. Six candidate technologies have been selected and others are being submitted for review.

Interagency Working Group on Technology Transfer

The Department of Commerce chairs the Interagency Working Group on Technology Transfer (IAWG). The IAWG meets monthly with representatives of the Federal Departments to discuss technology transfer issues, policy, and proposed legislation. The Defense Department has been participating in the IAWG with representatives from the 3 Military Departments and the Office of the Secretary of Defense.

Montana TechLink

Both the FY 98 and FY 99 Defense Appropriation Acts provided $1M to establish and operate a rural defense technology transfer center called TechLink at the University of Montana at Bozeman. A statement of work is in the process of being finalized which should provide a link for regional businesses and industries with the technology and know-how available from the Defense Department. It is anticipated that TechLink will be a strong asset in developing the "pull" needed to commercialize defense technologies.

Special Studies

International Participation in CRADAs

A study, "International Participation in CRADAs," was commissioned to conduct a review of existing Cooperative Research and Development Agreements (CRADAs) with foreign participation to analyze the processes utilized by U.S. Government agencies in determining whether to include foreign partners in CRADAs. The study also proposed criteria and procedural options for agencies to consider when evaluating potential foreign involvement in CRADAs.

The analysis was conducted through extensive interviews with technology transfer practitioners and policymakers at various Federal agencies [such as Department of Energy (DOE), Department of Defense (DoD), National Institute of Health (NIH), Department of Commerce (DOC)], as well as other study teams, involved in evaluating foreign participation in CRADAs. In addition, existing research (e.g., case studies, cost share programs, academic literature) was reviewed and analyzed to understand how U.S. Government (USG) agencies protect the public interest when foreign entities participate in USG-sponsored research and development (R&D) collaborations. This activity was not intended to be comprehensive but only to illustrate how various organizations interpret provisions that deal with national security and economic security interests in public-private technology transfer partnerships.

The study was also used to respond to a request by the Director of the Office of Science and Technology Policy (OSTP) to review policies and procedures used by federal agencies to review major proposed CRADAs that involve critical national security technology or may have a significant impact on domestic or international competitiveness.

DoD Cooperative R&D Agreements: Value Added to the Mission

During FY 98 the office also undertook a study, "DoD Cooperative R&D Agreements: Value Added to the Mission," to evaluate a sampling of DoD CRADAs to assess the benefits to DoD. Legislation has focused on the transfer of technology from the federal laboratories to the private sector and the benefits to the industrial partner; however, we believe value has also been realized by the federal partners involved in CRADAs. We anticipate the results of this study will be available in February 1999.

Service / Agency Highlights

The decentralized approach to managing the technology transfer program in DoD enables each activity to accomplish what best meets their mission requirements. Some highlights of these activities which also benefit the commercial sector, broken out by Military Department, are in Appendix C.

Future Goals

All three Military Departments have similar goals in technology transfer outlined for FY 99. These goals include: 1) continue to develop and conduct training in technology transfer for ORTAs, legal staff, S&Es, and R&D managers; 2) expand marketing and outreach efforts to update and expand laboratory homepages to include technology transfer opportunities; and 3) continue to expand efforts to identify available technologies with commercial potential.